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Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>28 September 2001</u>.

2a)☐ This action is **FINAL**.　　2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-29</u> is/are pending in the application.

　　4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1,4-6,9-22 and 27-29</u> is/are rejected.

7)☒ Claim(s) <u>2,3,7,8 and 23-26</u> is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on <u>28 September 2001</u> is/are: a)☒ accepted or b)☐ objected to by the Examiner.

　　Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

　　Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

　　a)☐ All　b)☐ Some * c)☐ None of:

　　　1.☐ Certified copies of the priority documents have been received.

　　　2.☐ Certified copies of the priority documents have been received in Application No. _____.

　　　3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

　　* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

DETAILED ACTION

Specification

The disclosure is objected to because of the following informalities: the serial number

(09966064) of related application entitled "Reserved ROM Space for Storage of Operating

System Drivers" is missing in first paragraph of page 1 of the disclosure.

Appropriate correction is required.

Claims 3, 8, 13, and 15 are objected to because of the following informalities:

- As per claims 3, 8, 21 and 29, the semicolon at the end of lines 2, 4, 4 and 5

  respectively, should be a colon.

- As per claim 13, "at least on of ..." on line 7" should be "at least *one* of..."

- As per claim 15, the referenced claim 13 on line 1 should be changed to claim 14 to

  avoid antecedent problem in the "first and second set of operating system drivers"

  referenced on line 5 of claim 16. The examination of current application will presume

  a correction of claim 14 in order to avoid said antecedent problem for claim 16.

Appropriate correction is required.

The rejections of the independent claims are supported by the following fact findings:

Findings

1. Castor et al., U.S. Patent 5590288, hereinafter Castor, discloses a method of providing

   operating system drivers during an operating system installation on a computer system

   [distributed data processing system 20] [col.3, ll.47-50; operating system drivers are

   required in order for operating systems to operate adequately].

2. Castor discloses the method comprising copying at least one of the operating system drivers [command.com or other portions] from a virtual disk drive [46] [col.13, ll.44-58] of the computer system during the operating system installation [col.16, ll.13-22].

3. Castor discloses the method comprising copying at the appropriate time during the loading of the operating system at least one of the operating system drivers from a virtual floppy [disk] drive [col.13, ll.44-58; col.16, ll.13-22; boot sequence ensures timely execution].

4. Castor discloses the method comprising providing a floppy image [col.14, ll.54-56; image comprising command.com, BPB, FAT, etc.] as a virtual floppy drive during the operating system installation [col.16, ll.13-22].

5. Castor discloses the computer system that is adapted to make the operating system drivers appear to reside on a virtual floppy [disk] drive [col.13, ll.44-58] for copying during loading of an operating system for the computer system [col.16, ll.13-22].

6. Castor discloses a BIOS program that is adapted to, when executed by a microprocessor [CPU], make the set of hardware drivers [operating system drivers also may access hardware] available for copying during installation of an operating system by providing the hardware drivers on a virtual disk drive [col.13, ll.44-58; col.14, ll.54-56; col.15, ll.17-20; BIOS invokes RVDISK which makes the hardware drivers available as if on a virtual disk drive].

7. Castor discloses the advantage of a virtual drive setup is that programs and data updates can be easier to implement [col.4 ll.18-21].

8. Alcorn et al., U.S. Patent 6106396, hereinafter Alcorn, discloses a method of providing operating system drivers during an operating system installation on a computer system

[fig.1; electronic casino gaming system; col.6, ll.14-29] [col.6, ll.24-29; operating

system drivers are required in order for operating systems to operate adequately].

9. Alcorn discloses the method comprising storing the operating system drivers on a read

only memory (ROM) [14; 50 and 52] within the computer system [col.9, ll.38-44].

10. Alcorn discloses the method comprising making available during the loading of the

operating system the operating system drivers stored on the ROM appropriate for the

operating system type to be installed [col.9, ll.49-56].

11. Alcorn discloses the method comprising loading the operating system [col.9, l.57].

12. Alcorn discloses the computer system comprising a read only memory (ROM) array

[ROM 14 consists of ROM 50 and 52] that stores operating system drivers [col.9, ll.38-

44].

13. Alcorn discloses a read only memory (ROM) device [14].

14. Alcorn discloses the ROM device comprising a basic input output system (BIOS)

program [col.9, 38-44].

15. Alcorn discloses the ROM device comprising a set of hardware drivers [col.9, 38-44].

16. Alcorn discloses the BIOS program that is adapted to, when executed by a

microprocessor [12], make the set of hardware drivers available for copying during

installation of an operating system [col.9, ll.49-56].

17. Alcorn discloses the advantage of authenticating a computer system is the assurance of

system integrity [col.5, ll.43-57].

18. Bates et al., U.S. Patent 6367074, hereinafter Bates, discloses a computer system [10;

fig.1].

19. Bates discloses the computer system comprising a CPU [100].

20. Bates discloses the computer system comprising a main memory array [106].

21. Bates discloses the computer system comprising a first bus bridge [memory hub 108]

coupling the CPU and main memory array;

22. Bates discloses the computer system comprising a primary expansion bus [system bus

116].

23. Bates discloses the computer system comprising a secondary expansion bus [secondary

bus 124].

24. Bates discloses the computer system comprising a second bus bridge [I/O hub 114]

coupling the primary and secondary expansion bus.

25. Bates discloses the computer system comprising a read only memory (ROM) array [non-

volatile memory 128; col.4, ll.4-12, ll.20-26, ll.59-61; embodied as EEPROM with

segments] coupled to the secondary expansion bus.

26. Bates discloses the ROM that stores basic input output system (BIOS) programs [col.4,

ll.4-12].

27. Bates discloses a method of loading an operating system on a computer [abstract].

28. Bates discloses the method comprising informing a basic input output system (BIOS)

[404] of an operating system type to be installed [col.5, ll.10-11; operating system may

be the full version type or the Quicknote environment type].

29. Bates discloses the method comprising loading the operating system [col.6, ll.12-20].

30. Madden et al., U.S. Patent 6178503, hereinafter Madden, discloses a method of providing
operating system drivers [other files] during an operating system installation on a
computer system [abstract; col.8, ll.54-59].

31. Madden discloses the method comprising storing a first set of operating system drivers
[other files] operable with a first operating system [OS C 110] in a read only memory
(ROM) [permanent storage 124; col.5, ll.63-66] of the computer system [col.8, ll.47-59;
drivers needed for operating system to run are depicted in col.11, l.18 – col.17, l.5].

32. Madden discloses the method comprising storing a second set of operating system drivers
operable with a second operating system [OS D 112] in the ROM [col.8, ll.47-59; drivers
needed for operating system to run are depicted in col.11, l.18 – col.17, l.5].

33. Madden discloses the method comprising copying at least one of the operating system
drivers from a virtual disk drive of the computer system during the operating system
installation.

34. Madden discloses the method comprising storing a first floppy image having a first set of
operating system drivers operable with a first operating system [OS C 110] [col.8, ll.47-
59; the image comprising all the files and structural information depicted in col.11,
l.18—col.17, l.5], the first floppy image stored in a read only memory (ROM)
[permanent storage 124; col.5, ll.63-66] of the computer system.

35. Madden discloses the method comprising storing a second floppy image having a second
set of operating system drivers operable with a second operating system [OS D 112]
[col.8, ll.47-59, the image comprising all the files and structural information depicted in

col.11, l.18—col.17, l.5], the second floppy image stored in the ROM [permanent

storage 124; col.5, ll.63-66].

36. Madden discloses the method comprising providing one of the first and second floppy

images during the operating system installation [col.8, ll.54-59].

37. Kricheff et al., U.S. Patent 6324627, hereinafter Kricheff, discloses a computer system

[virtual data storage system] comprising a memory storing BIOS programs [col.3, ll.29-

34; inherently, there is a memory for programs to be stored].

38. Kricheff discloses the BIOS programs are adapted to show a virtual floppy [disk] drive

whose contents reside in the virtual address space [block numbers; col.7, l.66 – col.8,

l.54; blocks correspond to address space in memory that is designated for virtual floppy

drive] of the computer system [col.10, ll.9-13; col.12, ll.33-43; BIOS includes sequences

for calling routines to display virtual data storage configuration].

39. Kricheff discloses the advantage of having a program to show the virtual floppy drives is

gaining protection against data corruption by allowing the user to configure the system

accordingly [col.2, ll.28-38; col.3, ll.3-11].

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness

rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Re Claims 1, 4, 17

Claims 1, 4 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Alcorn in view of Castor.

In re claim 1, Alcorn discloses each and every limitation of the claim, as set forth in findings 8-9, except for copying at least one of the operating system drivers from a virtual disk drive of the computer system during the operating system installation. Castor teaches a method comprising copying at least one of the operating system drivers from a virtual disk drive of the computer system during the operating system installation [findings 1-2] in order to update programs and data easier [finding 7]. It would have been obvious to one of ordinary skill in the art, having the teachings of Alcorn and Castor before him at the time the invention was made, to modify the system taught by Alcorn to include the virtual disk drive as taught by Castor, in order to obtain the method of providing updated operating system drivers during an operating system installation by copying at least one of the operating system drivers from a virtual disk drive. One of ordinary skill in the art would have been motivated to make such a combination as it provides an easier way to update programs and data in a computer system.

As to claim 4, Alcorn discloses the method of providing operating system drivers as defined in claim 1 wherein storing the operating system drivers on the ROM within the computer system further comprises storing the operating system drivers on the ROM along with a basic input output system (BIOS) [col.9, ll.39-44; ROM 14 comprises of ROM 50 and 52 segments].

In re claim 17, Alcorn discloses each and every limitation of the claim, as set forth in findings 13-16, except for having the BIOS program make the set of hardware drivers available for copying during installation of an operating system by providing the hardware drivers on a virtual disk drive. Castor teaches a BIOS program that is adapted to, when executed by a

microprocessor, make the set of hardware drivers available for copying during installation of an

operating system by providing the hardware drivers on a virtual disk drive [finding 6] in order to

update programs and data easier [finding 7]. It would have been obvious to one of ordinary skill

in the art, having the teachings of Alcorn and Castor before him at the time the invention was

made, to modify the device taught by Alcorn to include the virtual disk drive as taught by Castor,

in order to obtain the device for making the set of hardware drivers available for copying during

installation of an operating system by providing the hardware drivers on a virtual disk drive. One

of ordinary skill in the art would have been motivated to make such a combination as it provides

an easier way to update programs and data in a computer system.

Re Claims 5-6, 18

Claims 5-6 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Alcorn

and Castor as applied to claims 1 and 17 above, and further in view of Madden.

In re claim 5, Alcorn and Castor disclose each and every limitation of the claim, as discussed

above in reference to claim 1. Alcorn and Castor did not discuss employing multiple operating

systems.

Madden teaches a method of providing operating system drivers comprising:

- Storing on the ROM [permanent storage 124; col.5, ll.63-66] a first set of operating

    system drivers [other files] operable with a first operating system [OS C 110] [col.8,

    ll.47-59; drivers needed for operating system to run are depicted in col.11, l.18 – col.17,

    l.5].

- Storing on the ROM [permanent storage 124; col.5, ll.63-66] a second set of operating system drivers [other files] operable with a first operating system [OS D 112] [col.8, ll.47-59].

It would have been obvious to one of ordinary skill in the art, having the teachings of Alcorn, Castor and Madden before him at the time the invention was made, to modify the system taught by Alcorn and Castor to include the storing of multiple operating systems and associated drivers as taught by Madden, in order to obtain a way to store on the ROM a multiple set of operating system drivers operable with different operating systems. One of ordinary skill in the art would have been motivated to make such a combination as it provides a way to utilize programs or files that operate under a previous operating system version [Madden: col.9, ll.15-26].

As to claim 6:

- Madden discloses the method comprising having only operating system drivers operable with the operating system to be installed available for copying [col.8, ll.54-59]

- Castor discloses the method comprising copying at least one of the operating system drivers [command.com or other portions] from a virtual disk drive [46] [col.13, ll.44-58] of the computer system during the operating system installation [col.16, ll.13-22].

In re claim 18, Alcorn and Castor disclose each and every limitation of the claim, as discussed above in reference to claim 17. Alcorn and Castor did not discuss employing multiple operating systems.

Madden teaches a ROM device [permanent storage 124; col.5, ll.63-66] comprising:

- A first set of hardware drivers [other files] for use with a first type operating system [OS

  C 110] [col.8, ll.47-59; drivers needed for operating system to run are depicted in col.11,

  l.18 – col.17, l.5].

- A second set of operating system drivers operable with a second type of operating system

  [OS D 112] [col.8, ll.47-59].

It would have been obvious to one of ordinary skill in the art, having the teachings of

Alcorn, Castor and Madden before him at the time the invention was made, to modify the ROM

device taught by Alcorn and Castor to include the storing of multiple operating systems and

associated drivers as taught by Madden, in order to obtain a way to store on the ROM device a

multiple set of operating system drivers operable with different operating systems. One of

ordinary skill in the art would have been motivated to make such a combination as it provides a

way to utilize programs or files that operate under a previous operating system version [Madden:

col.9, ll.15-26].

Re Claims 9-11, 13

Claims 9-11, and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bates in

view of Alcorn and Castor.

In re claim 9, Bates discloses each and every limitation of the claim, as set forth in findings

18-25. Bates did not discuss that the ROM array stores operating system drivers or that the

computer system is adapted to make the operating system drivers appear to reside on a virtual

floppy drive for copying during loading of an operating system.

In regards to the ROM array, Alcorn teaches a computer system comprising a read only

memory (ROM) array that stores operating system drivers [finding 12] in order to ensure system

integrity by authenticating the whole system [finding 17]. It would have been obvious to one of ordinary skill in the art, having the teachings of Alcorn and Bates before him at the time the invention was made, to modify the system taught by Bates to include the ROM array as taught by Alcorn, in order to obtain a computer system with a ROM array for storing operating system drivers. One of ordinary skill in the art would have been motivated to make such a combination as it provides a way of authenticating a computer system.

In regards to the virtual floppy drive, Castor teaches a computer system that is adapted to make the operating system drivers appear to reside on a virtual floppy drive for copying during loading of an operating system for the computer system [finding 5] in order to update programs and data easier [finding 7]. It would have been obvious to one of ordinary skill in the art, having the teachings of Bates and Castor before him at the time the invention was made, to modify the system taught by Bates to include the virtual disk drive as taught by Castor, in order to obtain a computer system capable of providing updated operating system drivers during an operating system installation by copying at least one of the operating system drivers from a virtual floppy drive. One of ordinary skill in the art would have been motivated to make such a combination as it provides an easier way to update programs and data in a computer system.

As to claim 10, Bates discloses:

- The ROM array that also stores BIOS firmware [col.4, ll.4-5].

As to claim 11, Castor discloses

- The BIOS firmware that, when invoked for disk services, is adapted to make the operating system drivers appear to reside on the virtual floppy drive [col.14, ll.54-56; col.15, l.42 – col.16, l.22; BIOS with BPB to access command.com on virtual drive].

In re claim 13, Bates discloses each and every limitation of the claim, as set forth in findings 27-29. Bates did not discuss that the ROM stores operating system drivers or that the operating system drivers can be loaded from a virtual floppy drive.

In regards to the ROM, Alcorn teaches a method of loading an operating system on a computer, the method comprising storing the operating system drivers on a read only memory (ROM) within the computer system and making available during the loading of the operating system the operating system drivers stored on the ROM appropriate for the operating system type to be installed [findings 8-10] in order to ensure system integrity by authenticating the whole system [finding 17]. It would have been obvious to one of ordinary skill in the art, having the teachings of Alcorn and Bates before him at the time the invention was made, to modify the method taught by Bates to include the steps as taught by Alcorn, in order to obtain a method for storing operating system drivers in ROM. One of ordinary skill in the art would have been motivated to make such a combination as it provides a way of authenticating a computer system.

In regards to the virtual floppy drive, Castor teaches a method comprising copying at the appropriate time during the loading of the operating system at least one of the operating system drivers from a virtual floppy drive [finding 3] in order to update programs and data easier [finding 7]. It would have been obvious to one of ordinary skill in the art, having the teachings of Bates and Castor before him at the time the invention was made, to modify the method taught by Bates to include the step as taught by Castor, in order to obtain a way of providing updated operating system drivers during an operating system installation by copying at the appropriate time during the loading of the operating system at least one of the operating system drivers from

a virtual floppy drive. One of ordinary skill in the art would have been motivated to make such a

combination as it provides an easier way to update programs and data in a computer system.

Re Claims 12, 14-16

Claims 12 and 14-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bates,

Alcorn and Castor as applied to claims 9 and 13 above, and further in view of Madden.

In re claim 12, Bates, Alcorn and Castor disclose each and every limitation of the claim, as

discussed above in reference to claim 9. Bates, Alcorn and Castor did not discuss employing

multiple operating systems.

Madden teaches a computer system [104] comprising:

- A ROM array [permanent storage 124; col.5, ll.63-66] that stores a first set of operating

  system drivers [other files] for a first operating system [OS C 110] [col.8, ll.47-59;

  drivers needed for operating system to run are depicted in col.11, l.18 – col.17, l.5].

- The ROM array that stores a second set of operating system drivers for a second

  operating system [OS D 112] [drivers needed for operating system to run are stored

  together as depicted in col.11, l.18 – col.17, l.5].

- Wherein the computer system is adapted to make only one of the first and second set of

  operating system drivers available for copying during loading of the operating system for

  the computer system [col.8, ll.54-59].

It would have been obvious to one of ordinary skill in the art, having the teachings of Bates,

Alcorn, Castor and Madden before him at the time the invention was made, to modify the system

taught by Bates, Alcorn and Castor to include the storing of multiple operating systems and

associated drivers as taught by Madden, in order to obtain a way to store on the ROM a multiple

set of operating system drivers operable with different operating systems. One of ordinary skill in the art would have been motivated to make such a combination as it provides a way to utilize programs or files that operate under a previous operating system version [Madden: col.9, ll.15-26].

In re claim 14, Bates, Alcorn and Castor disclose each and every limitation of the claim, as discussed above in reference to claim 13. Bates, Alcorn and Castor did not discuss employing multiple operating systems.

Madden teaches a method of providing operating system drivers comprising:

- Storing a first set of operating system drivers [other files] operable with a first operating system [OS C 110] [col.8, ll.47-59; drivers needed for operating system to run are depicted in col.11, l.18 – col.17, l.5].

- Storing a second set of operating system drivers [other files] operable with a second operating system [OS D 112] [col.8, ll.47-59].

It would have been obvious to one of ordinary skill in the art, having the teachings of Bates, Alcorn, Castor and Madden before him at the time the invention was made, to modify the system taught by Bates, Alcorn and Castor to include the storing of multiple operating systems and associated drivers as taught by Madden, in order to obtain a way to store on the ROM a multiple set of operating system drivers operable with different operating systems. One of ordinary skill in the art would have been motivated to make such a combination as it provides a way to utilize programs or files that operate under a previous operating system version [Madden: col.9, ll.15-26].

As to claim 15, Bates discloses the method wherein informing the BIOS of the operating

system type to be installed comprises:

- Selecting the operating system type to be installed on a BIOS setup screen [col.5, ll.10-

  11].

- Setting an environment variable [flag] in a non-volatile RAM [col.5, ll.5-6; flag and

  system context info are stored in NVRAM] based on the selecting step that indicates the

  operating system type to be installed [col.5 ll.15-17].

As to claim 16:

- Alcorn discloses the method wherein making available the operating system drivers

  stored on the ROM comprises using BIOS programs to access the operating system

  drivers stored on the ROM [col.9, ll.49-56].

- Bates discloses the method comprising referring, by the BIOS programs, to the

  environment variable in non-volatile RAM [col.5, ll.5-6, ll.15-17].

- Madden discloses the method comprising making one of the first and second set of

  operating system drivers available based on a state of the environment variable [col.8,

  ll.54-59; col.9, l.37 – col.10, l.4].

Re Claims 19, 27

Claims 19 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Madden in

view of Castor.

In re claim 19, Madden discloses each and every limitation of the claim, as set forth in

findings 18-20, except for copying at least one of the operating system drivers from a virtual disk

drive of the computer system during the operating system installation. Castor teaches a method

comprising copying at least one of the operating system drivers from a virtual disk drive of the

computer system during the operating system installation [findings 1-2] in order to update

programs and data easier [finding 7]. It would have been obvious to one of ordinary skill in the

art, having the teachings of Madden and Castor before him at the time the invention was made,

to modify the method taught by Madden to include the step as taught by Castor, in order to

obtain the method of providing updated operating system drivers during an operating system

installation by copying at least one of the operating system drivers from a virtual disk drive. One

of ordinary skill in the art would have been motivated to make such a combination as it provides

an easier way to update programs and data in a computer system.

In re claim 27, Madden discloses each and every limitation of the claim, as set forth in

findings 18 and 22-24, except for providing the floppy image as a virtual floppy drive during the

operating system installation. Castor teaches a method comprising providing a floppy image as a

virtual floppy drive during the operating system installation [findings 1 and 4] in order to update

programs and data easier [finding 7]. It would have been obvious to one of ordinary skill in the

art, having the teachings of Madden and Castor before him at the time the invention was made,

to modify the method taught by Madden to include the step as taught by Castor, in order to

obtain the method of providing updated operating system drivers during an operating system

installation by providing a floppy image as a virtual floppy drive during the operating system

installation. One of ordinary skill in the art would have been motivated to make such a

combination as it provides an easier way to update programs and data in a computer system.

Re Claims 20, 28

Claims 20 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Madden and Castor as applied to claims 19 above, and further in view of Bates.

Madden discloses the method comprising:

- Having only operating system drivers operable with selected system, selected drivers, available for copying from the virtual drive [col.8, ll.54-59].

Madden and Castor did not discuss employing a BIOS setup screen to select an operating system.

Bates teaches a method of loading an operating system [finding 27], comprising:

- Selecting on a BIOS setup screen one of the first and second set of operating systems [full operating system or limited Quicknote], a selected system, to be installed on the computer system [col.5, ll.10-11].

It would have been obvious to one of ordinary skill in the art, having the teachings of Bates, Castor and Madden before him at the time the invention was made, to modify the system taught by Madden and Castor to include the BIOS setup screen as taught by Bates, in order to provide a way for the user to select an operating system. One of ordinary skill in the art would have been motivated to make such a combination as it provides a way to select a limited operating system to save access time at the initialization state [Bates: col.1, ll.15-33].

Re Claims 21, 29

Claims 21 and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bates, Madden and Castor as applied to claims 20 and 28 above, and further in view of Puckette, U.S. Patent 6385721.

Bates, Madden and Castor disclose each and every limitation of the claim, as discussed

above in reference to claims 21 and 29. Bates, Madden and Castor did not discuss accessing a

disk drive name.

Puckette teaches a method of booting a computer system [10] [abstract], comprising:

- Requesting disk services to a disk drive name [mass storage device 30] that does not

  physically reside in the computer system [fig.1; col.9, ll.37-40; device 30 is an I/O device

  akin to the keyboard that does not physically reside in computer 10].

- Requesting disk services by invoking interrupt 13h BIOS services directed to the disk

  drive name that does not physically reside in the computer system [col.9, ll.37-40].

- Requesting disk services by returning file names for the selected drivers by the interrupt

  13h BIOS services as if the selected drivers resided on the disk drive name that does not

  physically reside in the computer system [col.9, ll.37-40; reading boot record enables the

  reading of files].

It would have been obvious to one of ordinary skill in the art, having the teachings of

Puckette, Bates, Castor and Madden before him at the time the invention was made, to modify

the system taught by Bates, Madden and Castor to include the disk service request as taught by

Puckette, in order to provide a way for the user to access a disk drive that does not physically

reside in the computer system. One of ordinary skill in the art would have been motivated to

make such a combination as it provides a way to determine whether a disk drive can be accessed

[Puckette: col.9, ll.35-45].

Re Claims 22

Claims 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bates in view of

Kricheff.

In re claim 22, Bates discloses each and every limitation of the claim, as set forth in findings

8-16, except for having the BIOS programs adapted to show a virtual floppy drive whose

contents reside in the virtual address space of the computer system. Kricheff teaches a computer

system comprising a memory storing BIOS programs adapted to show a virtual floppy drive

whose contents reside in the virtual address space of the computer system [findings 30-31] in

order to allow the user to configure the system for protection against data corruption [finding

32]. It would have been obvious to one of ordinary skill in the art, having the teachings of Bates

and Kricheff before him at the time the invention was made, to modify the system taught by

Bates to include the BIOS programs as taught by Kricheff, in order to obtain the computer

system with BIOS programs adapted to show a virtual floppy drive whose contents reside in the

virtual address space of the computer system. One of ordinary skill in the art would have been

motivated to make such a combination as it provides a way to allow the user to configure the

system for protection against data corruption.

Allowable Subject Matter

Claims 2-3, 7-8, 23-26 are objected to as being dependent upon a rejected base claim, but

would be allowable if rewritten in independent form including all of the limitations of the base

claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: the

claims are allowable because none of the references cited, either alone or in combination

discloses or renders obvious a method of providing operating system drivers "wherein copying at

least one of the operating system drivers from a virtual disk drive further comprises showing the

operating system drivers residing on the ROM as files stores on the virtual disk drive by the

BIOS routines", the method of providing operating system drivers "wherein having only the

operating system drivers operable with the operating system to be installed available for copying

from the virtual disk drive further comprises showing only the operating system drivers operable

with the operating system to be installed as files stored on the virtual disk drive by the BIOS

routines", and the computer system "wherein the BIOS programs of the ROM are further adapted

to show the virtual floppy drive whose contents reside in the ROM or RAM area of the virtual

address space."

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's

disclosure.

- Anderson et al., U.S. Patent 6633905, discloses a computer system for displaying device

  drivers to be selected by the user.

- Soga, U.S. Patent 5546585, discloses a computer system with virtual address space.

  Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Tse Chen whose telephone number is (703) 305-8580. The

examiner can normally be reached on Monday - Friday 9AM - 5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Lynne Browne can be reached on (703) 308-1159. The fax phone number for the

organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published applications

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

applications is available through Private PAIR only. For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR

system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Tse Chen
June 28, 2004

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